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AMENDMENTS TO THE CLAIMS

OFFICIAL

1. (currently amended) A process for the preparation of a vaccine against tuberculosis and other intracellular pathogens selected from the group consisting of *Mycobacterium leprae*, *leishmania*, *salmonella*, *trypanosoma*, *plasmodium*, *brucella*, *listeria*, HIV and *streptococcus* and cancer, wherein the process comprises the steps of:

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- (i) culturing pathogens selected from the group comprising of *Mycobacterium tuberculosis*, *Mycobacterium leprae*, *leishmania*, *salmonella*, *trypanosoma*, *plasmodium*, *brucella*, *listeria*, HIV and *streptococcus*;
  - (ii) culturing syngeneic (same strain), allogeneic (different strain) and xenogeneic (different species like sheep and goat) macrophages and macrophage cell lines selected from the group consisting of J774, P388D1, RAW, BMC-2 and THP-1;
  - (iii) infecting macrophages and macrophage cell lines of step (ii) with a pathogen;
  - (iv) treating the infected cells with drugs to kill the pathogen followed by gamma irradiation to kill the macrophage or macrophage cell line and remaining pathogens to obtain the vaccine;
  - (v) immunizing disease resistant and susceptible strains of animals with the vaccine obtained above;
  - (vi) infecting the vaccinated animals with live pathogen and monitoring their mortality and viable counts of infectious agent in lungs, spleen and liver, and
  - (vii) monitoring the vaccinated animals for proliferation and generation of CD4<sup>+</sup> Th1 and Th2 cells and CD8<sup>+</sup> cytotoxic T cells indicating the generation of cell mediated immunity.

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2. (currently amended) A process for the preparation of a vaccine against tuberculosis, said process comprising the steps of:

- (i) culturing *Mycobacterium tuberculosis* H37Rv;
- (ii) culturing syngeneic and allogeneic macrophages and macrophage cell lines selected from the group consisting of J774, P388D1, RAW, BMC-2 and THP-1;
- (iii) infecting macrophages and cell lines (J774, P388D1, RAW, BMC-2, THP-1) with *M. tuberculosis*;
- (iv) treating the infected cells with amikacin isoniazid and gamma irradiation to kill the bacteria to obtain the vaccine;
- (v) immunizing tuberculosis resistant and susceptible strains of mice with allogeneic macrophage tuberculosis vaccine (AMTV) or [and] syngeneic macrophage tuberculosis vaccine (SMTV) or xenogenic macrophages tuberculosis vaccine (XMTV) obtained above;
- (vi) infecting the vaccinated group of mice with live *M. tuberculosis* and monitoring their mortality and viable counts of bacteria in lungs, spleen and liver; and
- (vii) monitoring the vaccinated animals for proliferation and generation of CD4<sup>+</sup> Th1 and Th2 cells and CD8<sup>+</sup> cytotoxic T cells indicating the generation of cell mediated immunity; and
- (viii) ~~inoculating the vaccine in the mouse footpad and examining the delayed type hypersensitivity reaction by measuring the swelling in the footpad for protective immunity.~~

3. (currently amended) A process for the preparation of a vaccine against salmonella, said process comprising the steps of:

- (i) culturing *Salmonella typhimurium*;

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- (ii) culturing syngeneic and allogeneic macrophages and xenogenic macrophages and macrophage cell lines selected from the group consisting of J774, P388D1, RAW, BMC-2 and THP-1;
- (iii) infecting macrophages and macrophage cell lines (J774, P388D1, RAW, BMC-2, THP-1) with *S. typhimurium*;
- (iv) treating the infected cells with mitomycin C and gamma irradiation to obtain the vaccine;
- (v) immunizing salmonella tuberculosis resistant and susceptible strains of mice with the vaccine obtained above;
- (vi) infecting the mice with live *S. typhimurium* and monitoring their mortality and viable counts of bacteria in lungs, spleen and liver; and
- (vii) monitoring the vaccinated animals for proliferation and generation of CD4<sup>+</sup> Th1 and Th2 cells and CD8<sup>+</sup> cytotoxic T cells indicating the generation of cell mediated immunity; and
- (viii) ~~inoculating the vaccine in the mouse footpad and examining the delayed type hypersensitivity reaction by measuring the swelling in the footpad for protective immunity.~~

4. (canceled)

5. (currently amended) A vaccine as prepared by the process as claimed in claim 1 wherein by entrapment of *M. tuberculosis*, *Salmonella typhimurium* and other intracellular pathogens in the allogeneic, ~~and~~ syngeneic and xenogenic macrophages, the preparations being treated by the available drugs selected from amikacin, isoniazid and gamma radiation for tuberculosis and mitomycin C and gamma

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radiation for S. typhimurium to kill against the pathogens and the vaccine is further gamma irradiated before using for the protection against the infectious diseases and cancer.